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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,075	04/12/2005	Hiroko Kuno	050136	2558

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EXAMINER	
JACKSON, MONIQUE R	
ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
03/22/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,075	KUNO, HIROKO	
	Examiner	Art Unit	
	Monique R. Jackson	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The response filed 2/1/10 has been entered. Claims 1 and 5 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher (USPN 6,620,872) in view of Valimont et al (USPN 4,704,174) or Parker et al (USPN 5,593,786) or Bartrug et al (USPN 6,791,065) or Veerasamy (USPN 6,827,977) for the reasons recited in the prior office action and restated below, wherein the Examiner notes that Fisher clearly teaches a single layer sheet formed separately from a laminate.

3. As discussed in the prior office action dated 11/28/07, Fisher teaches an infrared absorbing polyvinyl butyral composition comprising a polyvinyl butyral (PVB) resin, which is formed by the reaction of polyvinylalcohol and butyraldehyde and typically comprises about 10-25wt% of PVOH in the final PVB; and an infrared absorbing effective amount of fine particles of (i) lanthanum hexaboride present in an amount between about 0.005 and about 0.1 percent by weight of the composition, or (ii) a mixture of lanthanum hexaboride present in an amount between about 0.001 and about 0.1 percent by weight of the composition and at least one of indium tin oxide and antimony tin oxide, said indium tin oxide and/or antimony tin oxide present in said mixture in an amount of about 0.05 to about 2.0 percent by weight of the composition dispersed in said PVB (Abstract; Col. 3; Claim 1.) Fisher teaches that the composition may be utilized to produce a visually transparent sheet of PVB or utilized as an IR absorbing interlayer sandwiched between two sheets of glass (Abstract.) Fisher also teaches that while PVB is the

preferred resin used in the present invention, other polymers which may be used to form interlayer sheets of glass laminates could be substituted for PVB, and specifically refers to the known use of PVB and ethylene-vinyl acetate as interlayer materials in the background section (Col. 3, lines 38-42; Col. 1, lines 48-63.) In addition, Fisher provides examples having a composition that produces visual transmission and solar transmission values that read upon the claimed ranges (Examples.)

4. Though Fisher teaches that other polymers that may be used to form interlayer sheets of glass laminates can be substituted for PVB, Fisher does not specifically teach polyvinylchloride (PVC) as instantly claimed. However, as evidenced by Valimont et al (Col. 5, lines 5-19), or Parker et al (Col. 1) or Bartrug et al (Col. 6, lines 55-61) or Veerasamy (Col. 5, lines 45-50), PVC is an obvious interlayer resin utilized in the art, and functionally equivalent resin to PVB, and would have been obvious to one having ordinary skill in the art at the time of the invention given the reasonable expectation of success. Further, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the effective amount of lanthanum hexaboride particles, whether as weight percent as utilized in Fisher, or coating weight as instantly claimed, to provide the desired shielding properties for a particular end use wherein it would have been obvious to one skilled in the art that the visual and solar transmission values would be similar to those presented by Fisher in the examples, and would flow naturally from the teachings or suggestions of the prior art.

Response to Arguments

5. Applicant's arguments filed 2/1/10 have been fully considered but they are not persuasive. The Applicant first argues that Fisher fails to teach a single film or "stand-alone"

board as instantly claimed. However, the Examiner respectfully disagrees and notes that Fisher clearly teaches a single sheet or "stand-alone board" made from the PVB/LaB_6 blend as well as composites utilizing the separately-formed sheet as a layer or interlayer sheet (and not a coating on a substrate or coating between two substrates), wherein Fisher teaches that as a sheet, the thickness is about 0.13 to 1.3mm (see Col. 3, particularly lines 22-26 and lines 60-67) and even provides example sheets having thicknesses that provide sufficient mechanical support to be "stand-alone" films or boards (see all examples.) Hence, the main difference between Fisher and the instant claims is the use of PVC in the instant invention. However, Fisher clearly teaches that though "PVB is the preferred resin used...it should be recognized that other polymers which may be used to form interlayer sheets...could be substituted for PVB" (Col. 3, lines 39-42.) So the question is whether it would have been obvious to one having ordinary skill in the art at the time of the invention to select PVC as the "other polymer" to be "substituted for PVB" in producing the sheet taught by Fisher whether as a separate sheet or as a sheet to be utilized as an interlayer sheet in a laminate. The Examiner believes the answer is yes and maintains her position that PVC is a known, functionally equivalent resin to PVB in the art as evidenced by the secondary references, and a simple substitution of PVC for the PVB in Fisher would yield predictable results. In terms of the visible light transmittance and solar radiation transmittance, the Examiner maintains that one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the effective amount of lanthanum hexaboride particles, whether as weight percent as utilized in Fisher, or coating weight as instantly claimed, to provide the desired shielding properties, a predicable result, for a particular end use wherein it would have been obvious to one skilled in the art that the visual and

solar transmission values would be similar to those presented by Fisher in the examples, and would flow naturally from the teachings or suggestions of the prior art, particularly given that Fisher clearly teaches that the transmission properties are directly affected by the amount of lanthanum hexaboride particles dispersed in the resin. Therefore, in the absence of a clear showing of unexpected results with regards to utilizing PVC vs. PVB as taught by Fisher, the Examiner maintains her position that the instant invention would have been obvious over the teachings of the prior art.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
March 16, 2010